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DEBRIEFING REPORT
(RCS-CSFOR-74)

Country: Republic of Vietnam

Report By: BG Willard/Roper

18th Engineer Brigade, 1 November 1967 to
21 September 1968.

U. S. Army Engineer Construction Agency
Vietnam, 22 September to 7 October 1968

Date of Report: 7 October 1968

So much has been written about the magnitude of the engineer task in Vietnam that I feel it unnecessary to elaborate on this subject in this report. Suffice it to say that in relation to the size of the forces committed, the US engineering effort, undertaken by contractors and engineer troops of the various services, undoubtedly exceeds in magnitude any comparable undertaking in history.

The principal objective of the engineer construction program has, of course, been to support military forces in the field. To this end, construction has included major logistics bases, cantonments, highways, airfields, hospitals, field fortifications, power distribution systems, and a wide variety of other facilities. In most instances construction has been a prerequisite to combat operations and has kept pace with combat requirements. From my many contacts with tactical and logistical commanders in the field, I am convinced that the engineer support they have received has been outstanding.

Although directed toward providing support for combat operations, US construction programs have had a significant effect on the nation-building efforts of South Vietnam. Contractors and engineer troop units have trained thousands of Vietnamese in a wide variety of construction skills. Our investment in the highway program and in the development of ports and airfields has already enhanced the Vietnamese economy and will make an even greater contribution in the future. In addition, the many facilities built for military forces will when turned over to Vietnam after our withdrawal have great economic value to the Republic.

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To say that the engineering task in Vietnam has been of great magnitude and that it has been well carried out should not be construed to mean that there have been no weaknesses. Looking at our past and current activities, it is obvious that improvements could be made. The remainder of this report will therefore be devoted primarily to problems rather than to accomplishments.

A very basic weakness, it seems to me, is that the magnitude of the engineer effort, large as it has been, is not really enough. It should be evident, I think, that for a war in which social, political and economic factors are just as important as military factors, engineer resources should be available in an amount considerably greater than required solely for the military effort. If engineer units were available, for example, to undertake an intensive program of rural development including water supply, irrigation, secondary roads, utilities systems, and the like, the stability of the nation could be enhanced considerably. To achieve maximum impact, engineer units set aside for this purpose should be Vietnamese rather than American in order to foster an environment which would tend to link the people to the government.

It may not be too late even now to move in this direction. I suggest that serious consideration be given to approaching the Vietnamese Government with a proposal to assist in establishing an Engineer brigade much like the brigade recently established with US assistance in the Philippines. The United States could offer to provide the required equipment (preferably commercial type, in order to facilitate maintenance after US withdrawal) and advisors if the Vietnamese would undertake to organize, train and use such a brigade on the highway upgrading and maintenance program and on civic action projects. The experience gained so far in the Philippines shows excellent results. I feel confident that results in Vietnam would also be excellent.

I recommend that we never again try to fight a war with MCA funds. The administrative and budgetary complications introduced by requiring us to program, budget and account for MCA line items have been out of all proportion to the additional control achieved, if any. Considering the length of the budgetary cycle and the rapidly changing situation in a combat environment, it is simply impossible to program line items that will have any relationship to requirements which will exist 12-18 months later. In Vietnam we have found it necessary to reprogram almost every item prior to start of construction, and this has certainly impeded timely accomplishment of the work. It seems to me that the logical means

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for controlling construction in a combat environment is to establish sensible criteria and standards and insist upon their being enforced. This has not always been done in the past, but I think it is generally being done today. I certainly recommend that USARV go on record as opposing any requirement for budgeting MCA funds in future combat areas. There is a wealth of data available to support such a view.

Experience in Vietnam has shown that contractors can be used very effectively for many purposes in a combat environment. Over the past several years contractors have been used in Vietnam for design, engineering, construction, real property maintenance, equipment maintenance, and a variety of other tasks. They have worked alongside their military counterparts with a minimum of friction. The feasibility of contractor participation should be recognized in Army doctrine and reflected in peacetime planning for war. It would also be advantageous to pre-select contractors for use in potential combat areas so that they could make advance plans for deployment in an emergency.

In planning for contingencies, planners at the Washington level have generally done an adequate job in planning engineer support for combat operations and base construction. However, relatively little attention has been given to requirements for the maintenance of facilities and utilities operation. Experience in Vietnam clearly demonstrates that these functions must be planned and programmed from the outset and provided for within the engineer structure established in the theater of operations.

In Vietnam the functions just referred to have been carried out largely by contract. Initially, responsibility for the contract was vested in the 1st Logistical Command. However, experience soon showed that the functions were so far removed from the principal missions of the Logistical Command that they could not receive adequate command attention. The present arrangement under which the functions are a responsibility of the Engineer is sound and should be recognized as doctrine for future conflicts. Moreover, if the functions are to be performed by contract, full contracting responsibility should be vested in the Engineer Commander responsible for the mission. The split in contracting responsibility presently in effect in Vietnam is unsatisfactory.

One further point in relation to real property maintenance and utilities operation is that the use of utilities detachments and similar units derived from TO&E 5-500 is unsatisfactory unless suitable headquarters elements can be provided. Future

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deployments of units of this type should provide battalion level headquarters elements.

Turning to a discussion of non-divisional Engineer units, there are a number of areas in which significant improvements should be made. The first such area is that of TO&E equipment.

As a general observation, I would say that the present TO&E lags a good many years behind the state of the art in the construction industry. Civilian contractors today use items of equipment having greater capacity and requiring less manpower per unit of production. I recommend that current TO&E's be re-examined by the Chief of Engineers, assisted by selected experts from the construction industry, with the objective of updating the type of equipment used. I further recommend that maximum reliance be placed upon standard commercial equipment without imposing unnecessary military specifications. For example, several standard 10-ton commercial dump trucks can be bought for the price of one military standard 5-ton dump truck. These commercial vehicles can operate in almost any environment that the military vehicle can operate in and can outproduce the military vehicle by a factor of 2. In some environments they would wear out faster than the military vehicle but, on the other hand, they are far less costly to replace.

We have also found in Vietnam that we need in the Army a system whereby special equipment can be provided to Engineer units when they encounter special tasks. The air transportable equipment received within the last year has been extremely valuable and is a good example of the need for a Class IV equipment pool.

Another good example of the need of establishing and maintaining equipment pools is the highway program in Vietnam. Some months ago, while commanding the 18th Engineer Brigade, I asked my staff to review the highway program and let me know how long it would take to finish it with the equipment currently available or planned. The answer I received was that it would take more than 8 years. I felt this was excessive and asked that a study be made to see what additional equipment would be necessary to complete the job in 4 years or less without an increase in manpower. The outcome of the study led to a request for a major equipment buy out of MCA funds, and this will be accomplished in the near future. In planning for future conflicts in under-developed areas, provision should be made well in advance for equipment pools and a system should be worked out for supporting such pools with an adequate flow of repair parts.

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The Engineer support of tactical forces in Vietnam has, with rare exceptions, been on the basis of "general support". This has proven to be a highly effective concept. Combat and operational support missions are given top priority and tactical commanders may task their supporting Engineer unit directly when time does not permit a more formal process. Responsiveness has been outstanding and whatever engineer resources were needed have always been applied. I recommend that this concept be continued as standard Army doctrine.

One problem which we are a long way from solving is that of mine detection and removal. Techniques have improved very little since World War II and we continue to have far too many casualties as a result of mining incidents. Recently ACTIV completed a report containing many useful recommendations. However, what is really needed is a quantum jump. I recommend that mine detection and removal be placed high on the priority list of research projects until considerably better techniques are developed.

Another problem area which needs further study is dust palliation and erosion control. Penepime has been highly useful. However, it is not the complete answer to the problem and further research is needed. Certainly one approach to the problem of dust and erosion is to use grass. We have only recently received grass seeding equipment, seed, and fertilizer in sufficient quantity to undertake a seeding program. In the future I believe our Engineer units should have seeding equipment in their TO&E's and that manuals should be available to them to guide them in its use.

Another type of equipment which our Engineer units lack is laboratory equipment for quality control purposes. I recommend this deficiency be remedied in future modifications to TO&E's.

We are presently initiating a civilianization program in our Engineer units. I have grave misgivings about the effect of this program on our capacity to produce. Civilianization will inevitably restrict the mobility necessary to do the total engineer job efficiently. It will create problems of security for the remaining military personnel of the units. Moreover, I doubt that civilians are available to offset the reduction in military strength; all engineer units are presently employing about as many civilians as they can recruit. I recognize that civilianization has been directed and that it must be carried out. However, I certainly hope

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that Army doctrine for the future will not contemplate this kind of action. The use of civilians by Army Engineer units should be limited to those which can effectively be employed over and above the authorized military strength, as was the case until recently in Vietnam.

During the past year the assignment of officers to command Engineer battalions and groups has generally been on a 6-month basis. This policy has created a turbulence which has tended to detract from maximum performance. I recognize the desirability of giving as many outstanding officers as possible an opportunity to command. I also recognize that some staff positions should be filled by officers who have had command experience in Vietnam. However, I recommend that in the interest of mission performance, the normal command tour be 12 months, with exceptions on a case-by-case basis.

My departure from this command has come about swiftly and unexpectedly. I have not had an opportunity to give this debriefing report as much thought and attention as it deserves. I believe the problems I have outlined are genuine and warrant thoughtful consideration for the future. If I can be of any assistance in elaborating any of them, I will be glad to do so. It has been a great privilege to serve as an Army Engineer in Vietnam and to participate in this vast engineering undertaking. I am most appreciative of having had the opportunity.



W. ROPER
Brigadier General, USA
Commanding

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